Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

and temperature control, discussion of reduction potential and its relation to hydrogen electrode potential, sources of error, standard solutions for checking such measurements, and a chapter on P_H standardization, the last including a "Proposal of standard values." The chapter on "Supplementary methods" deals with the conductivity and other methods which have been used in special cases in estimating hydrogen ion concentrations. The final chapter on "Applications" groups the literature according to subject matter, and according to the author constitutes an index to the bibliography which follows.

The reviewer was especially interested in the details which the writer has added from his experience in the manipulation of apparatus. Among these are the charging of storage batteries using an ordinary electric light current, the effects of various substances (carbon dioxide, phenol, toluol, oxygen, etc.) in solution upon the hydrogen electrode, purification of mercury, construction of a constant temperature box, and lists and discussion of possible potentiometer equipment. For the student already engaged in making hydrogen ion determinations the book contains many valuable suggestions, and forms a ready reference to literature, while to the student who contemplates making such measurements it represents a manual, an outline of procedure.—J. M. ARTHUR.

A chemistry of plant products

HAAS and HILL'S, *An introduction to the chemistry of plant products*, which first appeared in 1913 and was reviewed in this journal,[3] has now reached a second edition.[4] From its first appearance it has been recognized as a book filling a long felt want. It was intended to supply the botanist, and especially the plant physiologist, with chemical knowledge and methods not found in the ordinary textbooks on chemistry. It has filled its purpose admirably. Although written primarily for the plant physiologist, the avoidance of a technical method of treatment makes it a useful book for the botanist of limited chemical training, who is working on problems involving a knowledge of plant materials. Thus at the present time, when the synthetic viewpoint of botany in relation to the other sciences is coming to the front, when it is coming to be recognized that botany and chemistry must unite forces in solving many problems, the method of treatment used in the book has increased significance. It is a significant commentary on the amount of work being done by WILLSTÄTTER and his coworkers, and by others no doubt inspired by them, that the major changes in the book have been made in the chapter on pigments. This chapter has been entirely rewritten and much new material incorporated, especially in the part dealing with chlorophyll. A few other important additions have been made to the text, and a number of references have been added

---

[3] BOT. GAZ. 56:343. 1913.

[4] HAAS, PAUL, and HILL, T. G., An introduction to the chemistry of plant products. 2d ed. pp. xii+411. London: Longmans, Green. 1917.

to the literature, all serving to bring the work up to date. It will continue to be a book which the plant physiologist and anyone interested at all in the chemistry of plant materials will want on his shelf.—S. V. EATON.

Soil alkali

HARRIS[5] has written an excellent critical little book on soil alkali. The author says: "It has been estimated that about 13 per cent of the irrigated land of the United States contains sufficient alkali to be harmful. This means that there are over 9,000,000 acres of land under present canal systems that are affected with alkali. There are many more million acres of alkaline land in the United States that do not lie under irrigation systems. Similar figures might also be given for other countries of this continent and for all other continents. The alkali problem is one of no mean importance to farmers, nor to any who are interested in the world's food supply.

In a strictly chemical sense the word alkali refers to a substance having a basic reaction. As applied to the soil, however, this restricted meaning does not hold, and alkali refers to any soluble salts that make the soil solution sufficiently concentrated to injure plants. This includes the chlorides, sulphates, carbonates, and nitrates of sodium, potassium, and magnesium, and the chloride and nitrate of calcium. The sulphate and carbonate of calcium are not sufficiently soluble to be injurious to crops. Most of the alkalies are in reality neutral salts. It may be somewhat unfortunate to use for general substances a word that has become so well established in agricultural literature that it would now be very difficult to change it." The author also emphasizes the great number of purely scientific problems connected with alkali soils and the need of much fundamental research in this field.

The book includes 16 chapters: 1. Introduction; 2. Geographical distribution; 3. Origin of alkali; 4. Nature of alkali injury to plant; 5. Toxic limits of alkali; 6. Native vegetation as an indicator of alkali; 7. Chemical methods of determining alkalis; 8. Chemical equilibrium and antagonism; 9. Relation of alkali to physical conditions in the soil; 10. Relation of alkali to biological conditions in the soil; 11. Movement of soluble salts through the soil; 12. Methods of reclaiming alkali lands; 13. Practical drainage; 14. Crops for alkali land; 15. Alkali water for irrigation; 16. Judging alkali land.—WM. CROCKER.

NOTES FOR STUDENTS

Vegetation of Tasmanian mountains.—In reporting in some detail a study of the mountain vegetation of Tasmania, Miss GIBBS[6] sketches the position of the geological history of the island that most directly concerns its

---

[5] HARRIS, F. S., Soil alkali, its origin, nature, and treatment. pp. xvi+258. Wiley & Sons. 1920.

[6] GIBBS, L. S., Notes on the phytogeography and flora of the mountain summit plateaux of Tasmania. Jour. Ecol. 8:1–17, 89–117. 1920.